

CLAIMS

1. A vessel comprising a gas reservoir and at least one gas outlet, wherein said gas outlet comprises an integral gas permeable membrane.
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2. A vessel according Claim 1, wherein the gas flow across the gas permeable membrane is by diffusion.
3. A vessel according to Claims 1 or 2, wherein diffusion of the gas through the gas permeable membrane sterilises the gas.
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4. A vessel according to any of Claims 1 to 3, wherein the gas reservoir is a fluid.
5. A vessel according to Claim 4, wherein the fluid is a gas.
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6. A vessel according to Claim 5, wherein the gas is selected from either O₂ or CO₂.
7. A vessel according to Claim 4, wherein the fluid is a liquid.
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8. A vessel according to Claim 7, wherein the liquid is gas enriched.
9. A vessel according to Claims 7 or 8, wherein the liquid is CO₂ enriched.
10. A vessel according to Claim 9, wherein the CO₂ enriched liquid is selected from either carbonated water or a solution of buffered bicarbonate salt.
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11. A vessel according to any of Claims 1-10, wherein the gas reservoir comprises more than one gaseous species.
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12. A vessel according to any of Claims 1-11, wherein the gaseous reservoir further comprises an ethylene inhibitor.

13. A vessel according to Claim 12, wherein the ethylene inhibitor is 1-methyl cyclopropene.
14. A culture system comprising a first vessel according to any of Claims 1 to 13,
5 wherein the first vessel is connected to a second vessel which comprises a cell.
15. A culture system according to Claim 14, wherein the cell is a plant cell.
16. A culture system according to Claims 14 or 15, wherein the plant cell is
10 undergoing micro-propagation.
17. A culture system according to Claim 14, wherein the cell is an animal cell.
18. A culture system according to Claim 14, wherein the cell is a bacterial cell.
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19. A culture system according to Claim 14, wherein the cell is a yeast cell.
20. A culture system comprising a first vessel according to any of Claims 1-13,
20 wherein the first vessel is connected to a second vessel which contains a plant.
21. A ventilation system comprising a first vessel according to any of Claims 1-
11, wherein the first vessel is connected to a second vessel which contains an
animal.
22. A culture system or ventilation system according to any of Claims 14-21,
25 wherein the gas outlet on the first vessel is adapted to connect with a
pressurised ventilation stream.
23. A culture system or ventilation system according to Claim 22, wherein the
30 pressurised ventilation stream is derived from a humidity-induced forced
ventilation apparatus.
24. A method for the supply of a gaseous species to a cell, comprising the steps of;

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- i) providing a vessel comprising a gas reservoir and at least one gas outlet wherein the gas outlet comprises a gas-permeable membrane;
 - ii) connecting, via an interconnecting means, the vessel to at least a second vessel comprising a cell; and optionally,
 - iii) further connecting a humidity-induced forced ventilation apparatus to said interconnecting means.

10 25. A method according to Claim 24, wherein the cell is a plant cell.

26. A method according to Claim 25, wherein the plant cell is undergoing micro-propagation.

15 27. A method according to Claim 24, wherein the cell is selected from the group consisting of an animal, bacterial or yeast cell.

28. A vessel, culture system or a method substantially as described with reference to the accompanying examples.

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